



Alti-rando²

User's manual

English version

SUPAIR-VLD
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FRANCE

45°54.024'N / 06°04.725' E

RCS 387956790

Revision Indice: A2

Thank you for your choice of a ALTIRANDO². We are proud to join you on your journey in our common passion : paragliding.

SUP'AIR has been designing, producing and selling accessories for free flying activities since 1984. By choosing a SUP'AIR product you benefit from almost thirty years of expertise, innovation and listening. This is also our philosophy : working endlessly to develop better products and to maintain a high quality production in Europe.

We trust that you will find this user's manual comprehensive, explicit and hopefully pleasant to read. We advise you to read it carefully !

On our website www.supair.com, you will find the last up to date information about this product. If you have any further questions, feel free to ask one of our retailers. And of course, the entire SUP'AIR team are at your disposal through info@supair.com

We wish you many safe flying and enjoyable hours, and happy landings

The SUP'AIR team

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Pictures credits : Philippe Vernerey,
SUPAIR



Welcome to the trekking and paragliding world ! With the Altirando2 you are equipped with a light and complete product enabling you to widen you mountain flying spectrum. Great comfort, full Air-BAG, possibility to connect a front mount reserve parachute container, are the characteristics of a well rounded harness ready to tackle any thermal after a takeoff from where your hiking trail lead you...

After reading this manual, we suggest you check your harness by hanging in it before flying.

N.B : Three important icons will help you when reading this manual



Advice



Caution !

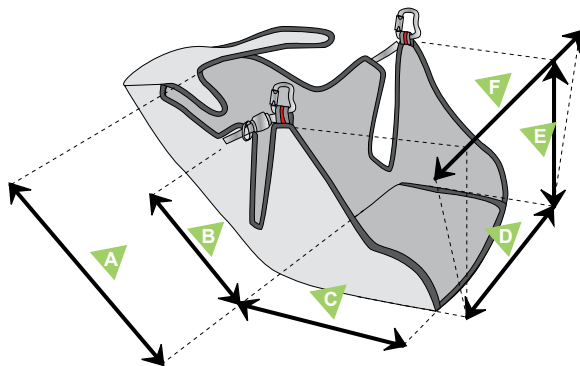


Danger !!



Technical sheet

- A** Back height (cm)
- B** Leaning setting height (cm)
- C** Seat length (cm)
- D** Seat width (cm)
- E** Carabiners height (cm)
- F** Carabiners distance (cm)










	XS	S	M	L	XL
Pilot size	145-155 cm	155-170 cm	165-180 cm	175-195 cm	195-205 cm
Pilot's weight	50-60 kg	50-70 kg	60-85 kg	70-95 kg	80-110 kg
Harness weight (+ carabiners+speedbar)	3190 g	3290 g	3390 g	3490 g	3590 g
Designed for	Paragliding only				
Back height (cm)	60	64	68	72	75
Leaning setting height (cm)	37	38	38	39	40
Seat length (cm)	45	47	48	49	51
Seat width (cm)	31	33	35	37	39
Carabiners height (cm)	44	44	44	44	44
Carabiners distance (cm)	39-53	39-53	39-53	39-53	39-53
Impact damping system : Airbag (Volume)	Yes				
Impact damping system : Bumpair (Thickness)	No				
Homologation	EN 1651 - LTF				
Flight : tandem (Pilot- Passenger)	possible				
Flight : acrobatic flying	No				
Take-off : Winching	Yes				
Quick-out carabiners compatibility	Yes				

This harness is delivered with two 30 mm Biners (138 g. for the set). An overall weight decrease is possible to obtain by swapping the Biners with a «Connect» set (24 g. for the set).

Choosing your harness' size is important. You will find here below a height/weight table that will help you in your size choice. Nonetheless we advise you to try out the harness under a hanging device and in different sizes at one of our retailers in order to choose the correct size.

For a complete list of our retailers, please click here : www.supair.com

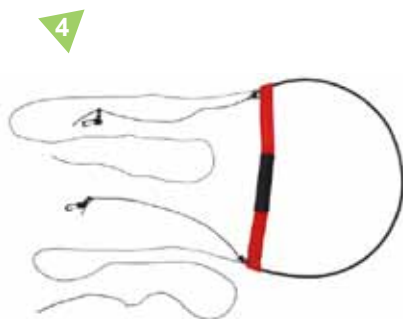
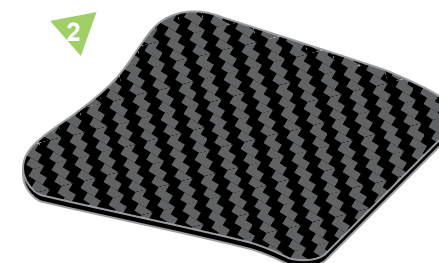
Size Weight	1m45	1m50	1m55	1m60	1m65	1m70	1m75	1m80	1m85	1m90	1m95	2m	2m05
50	XS	XS	XS/S	S	S	S							
55	XS	XS	S	S	S	S	S/M						
60	XS/S	XS/S	S	S	S	S/M		M					
65			S	S	S/M		M	M	M/L				
70			S	S/M	M	M	M	M	L				
75				S/M	M	M	M	M	L	L			
80					M	M	M	M/L	L	L	L		
85						M	M/L	L	L	L	L/XL		
90							M/L	L	L	L/XL	XL	XL	XL
95							L	L	L/XL	XL	XL	XL	XL
100									L/XL	XL	XL	XL	XL
105										XL	XL	XL	XL
110										XL	XL	XL	XL

	XS
	XS/S
	S
	S/M
	M
	M/L
	L
	L/XL
	XL

- 1 Rescue parachute handle
- 2 Rescue parachute risers
- 3 30 mm Aluminium self-locking biner

Option

- 4 Double stage speed-bar
- 5 Short foot-rest
- 6 Front parachute container



This illustration will help you during your reading.



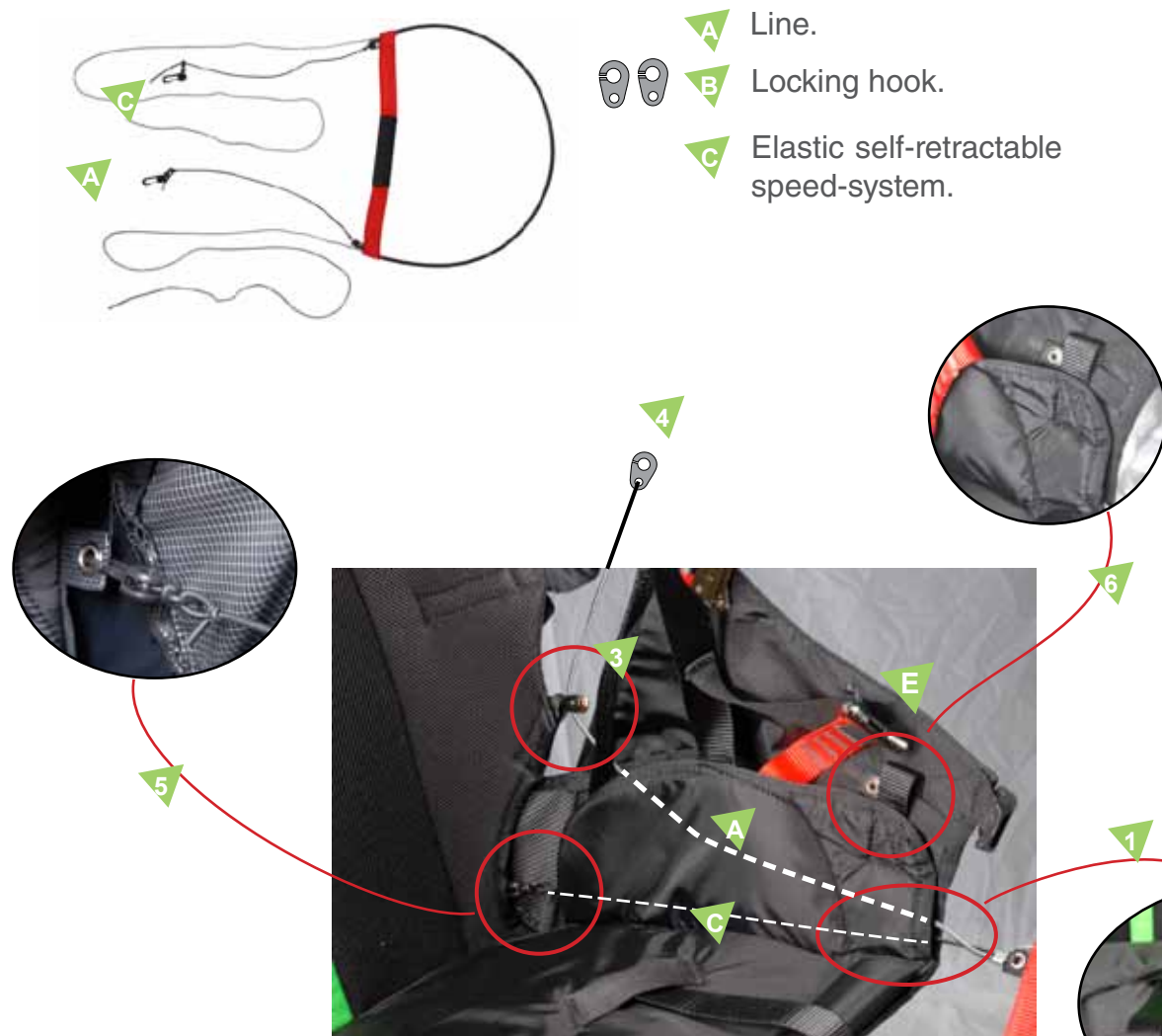
- 1 Automatic ventral buckle
- 2 Safe-T-bar (Sup'Air patent A1-1832/981)
- 3 Automatic thigh strap buckle
- 4 Ventral width adjustment
- 5 Leaning setting
- 6 Shoulders' straps adjustment
- 7 Dorsal Air-Bag with storage compartment.
- 8 Buckles for foot-rest
- 9 Speed system pulleys.
- 10 Hiking poles hooking points.
- 11 Hydration hose passage.
- 12 Air-Bag locking system



- 1 Compression straps.
- 2 Elastic hiking pole lanyards.
- 3 Stretchable netted side pockets.
- 4 Adjustable load distribution straps.
- 5 Chest strap.
- 6 Hand-rest straps.
- 7 Adjustable waist strap.
- 8 Adjustable chest straps.
- 9 Waist strap pocket.
- 10 Lite pack

The Altirando2 is pre-equipped to receive most speed-bar systems found on today's market. Within the SUPAIR accelerator product range, the double stage speed system is best suited for being light and self-retractable.

Speed-Bar ready (Optional).



Harness seating area inner view.

- 1 Push the speed-bar line through the the D ring. **D**
- 2 Push the speed-bar line between the outer webbing side and the harness skirt.
- 3 Push the speed-bar line through the pulley.
- 4 Attach the end of the speed-bar line to the crimped hook which is to be connected to the riser's crimped hook. Adjust the line length and securely knot it.
- 5 Self-retracting speed-system: push the elastic cords through the D ring to connect them to the metal grommets stitched on the inner sides of the harness.
- 6 Push through and close the harness side skirt holding strap into the seat guide. **E**

Foot-rest installation. The Altirando-2 is pre-equipped to receive a foot-rest.
Push the webbing through the buckle located at the front of the harness side skirt.



The Altirando2 is set-up to receive a front mount reserve parachute container.



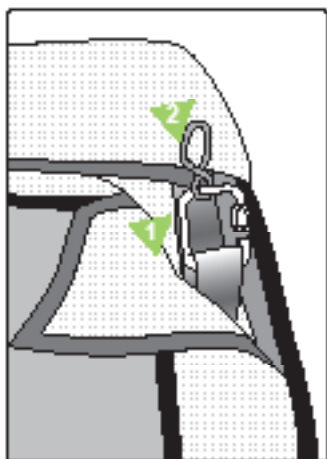
Reserve parachute installation: refer to the reserve parachute manual.

Connect the front mount reserve parachute container to the right side of the harness if you

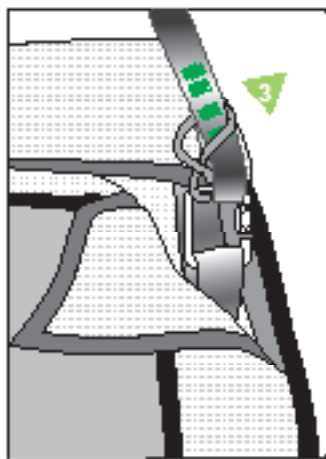
Push the reserve parachute risers through the external riser sleeve alongside the harness.



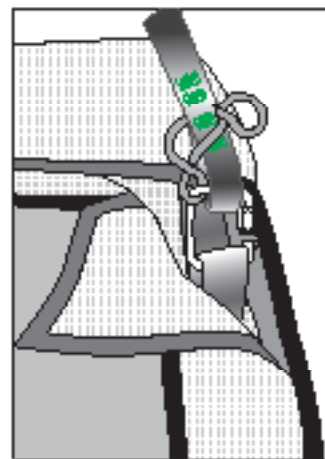
1. Place the Maillon Rapide® (locking nut upwards and on exterior side) inside the webbing loop. Place the O-ring inside the Maillon and twist it.



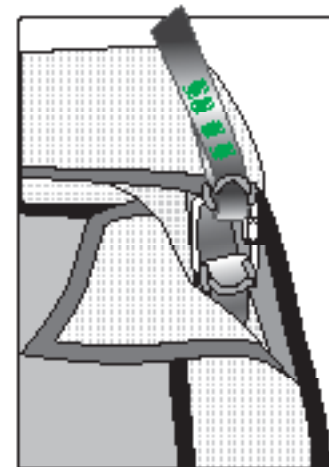
2. Pass the riser inside the free loop and inside the Maillon Rapide®.



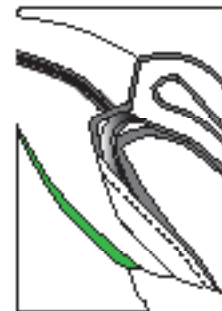
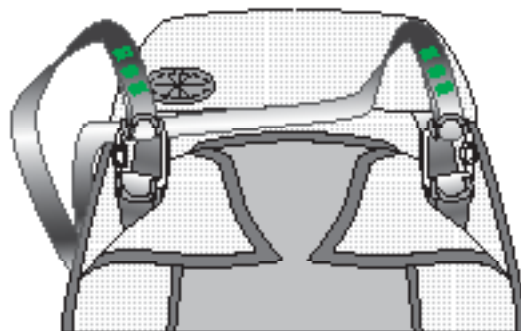
3. Make a new twisted loop with the ring and pass it inside the Maillon Rapide®.



4. Repeat steps #1, #2 and #3 with another O-ring for the connexion to harness. Tighten the Maillon Rapide® locking nut correctly, with a spanner if needed.



5. Neatly stow any surplus risers under the flaps.



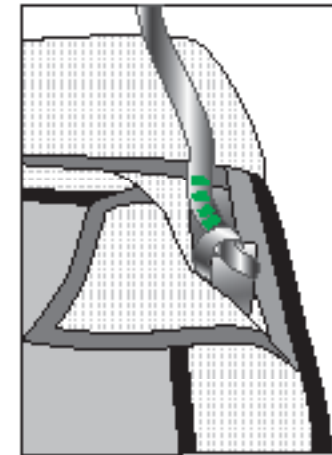
1 Maillon Rapide® Inox 6mm (x2)

2 O-Rings (x2)

3 Parachute risers

1. Make a lark's head between the risers and the webbing loop for rescue attachment.

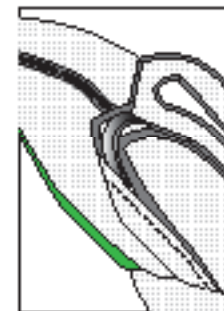
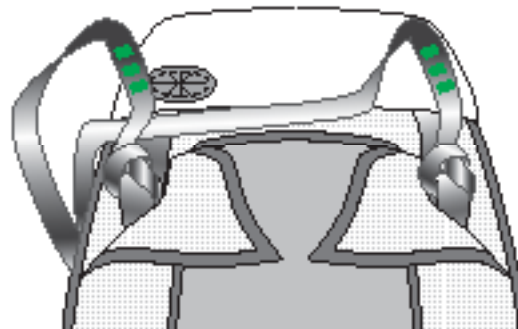
2. Fasten the lark's head neatly



3. Neatly stow any surplus risers under the flaps.

1 Rescue standard parachute risers

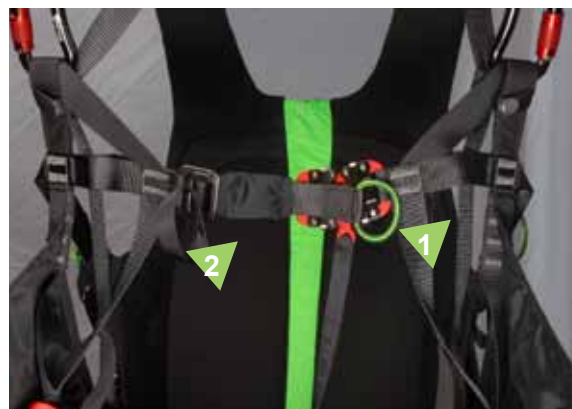
2 Webbing loop for rescue risers attachment





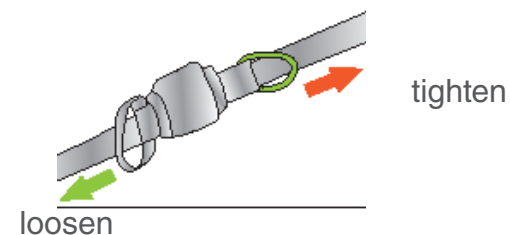
All harness adjustments must be made prior the first flight during a hang-test session. It is of utmost importance to adopt a proper flying posture, check all basic adjustments and have easy access to in-flight adjustments.

- 1 Chest strap finger-loop tension tightening adjustment.
- 2 Chest strap finger-loop tension release adjustment.
- 3 Tightening snapper (leaning setting)
- 4 Loosening strap (leaning setting)
- 5 Tightening snapper (shoulder strap)
- 6 Loosening strap (shoulder strap)



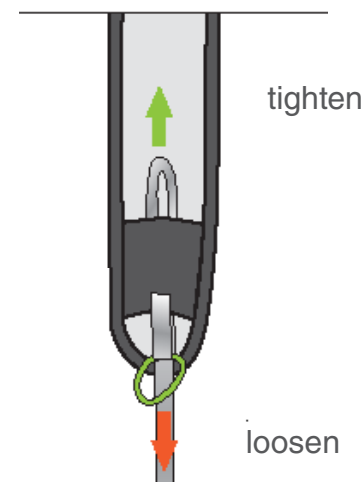
A Leaning angle setting

Set the angle of leaning by tightening the snapper (towards a more vertical position) or the black webbing (towards a more horizontal position). You can extend the lumbar support by tightening the #5 buckle.



B Shoulders' straps adjustments.

Tighten the shoulder straps by pulling the finger loop down. Pull up to release. The shoulder straps support, greatly helps the comfort level. It should be set precisely. You must find the correct tension between the side and shoulder straps adjustments. When adopting a reclined flying posture, the shoulder straps must enhance in-flight comfort levels by supporting the upper back.



C Chest strap adjustment.

This adjustment is important as it acts on the ABS and the harness overall stability. The tighter the more stable. The opposite is true while enabling weight-shift steering.

To tighten the chest strap:

Place your left hand in front of and pass the risers to grab the right self-locking Biner.

With the right hand, grab the chest strap finger-loop and pull it to tighten the chest strap.

To loosen the chest strap:

Place your left hand in front of and pass the risers to grab the right self-locking Biner.

With the left arm, shorten the distance between the risers and pull the finger-loop in the opposite direction to loosen the chest strap.

How to turn the Altirando2 harness mode into the backpack mode:

- 1 / Completely open the Air-Bag.
- 2 / Flip the Air-Bag inside-out.
- 3 / Place the seat-plate vertically against the back wall - stow away your gear inside the newly made backpack.



How to turn the Altirando2 backpack mode into the harness mode:

- 1 / Completely loosen the backpack's upper weight distribution straps or the Air-Bag will be pinched at its top section.
- 2 / Completely unzip the Air-Bag.
- 3 / Empty the backpack's content.
- 4 / Unfold the seat-plate toward the outside.
- 5 / Zip the Air-Bag and activate the pressure locking system located right onto the harness - designed to fully close the envelope and ensure its proper inflation.



- A** To stow away small miscellaneous items inside the AirBag in flight, unzip and extract the «Lite-Pack» pocket located above the backpack's shoulder straps.



The Altirando2 is a safe and sound harness. Its ABS (Anti Ballance System) is very efficient, especially due to high crossed connection points. The stiffened but yet flexible backrest, the well padded shoulder straps give an excellent comfort level during long XC flights. This harness broadens the hiking and flying possibilities while being perfectly suited to tackle any local site flying.



Conduct a thorough pre-flight check before each takeoff.



- Check the harness and Biners integrity.
- Check that the (optionnal) front parachute pocket is correctly closed.
- Check that your harness adjustments have not changed.
- Check the connexion risers / harness as well as the self-locking Biners (locked and secured).
- Check your speed-bar system if your harness is equipped with one.
- Make certain to close all buckles, pockets and especially the Air-Bag zipper with its locking mechanism.

After a thorough weather conditions analysis, when the decision to fly has been taken, fit into the harness :

Fasten the buckles (thigh straps, safe-T-bar and ventral buckles) with application.

Double check that all buckles are fully locked and secured by pulling firmly on them. Check that no line, tab or cloth is stuck / jammed in the buckles.



Be absolutely certain that there is not a line or other objet in contact with or caught in the reserve parachute handle.



- 1 Thigh strap automatic buckles
- 2 Safe-T-Bar® Sup'air patent A-1832/981
- 3 Chest strap automatic buckles



Takeoff is a simple and straight forward. The transition from running to seating is easy. If the transition is a bit more demanding then, raise your knees and push with your shoulders against the risers while wiggling your waist to help your body slide into the bottom of the seat. It is also possible when setting up, to tighten the leg straps slightly more to prevent them from riding up along your thighs while running.



Never forced yourself into the harness with your toggles in hands. Doing so, could slow the glider down and stall it.

Do not release your hands from the brakes when you are close to the ridge.



In flight



As soon as you are airborne, the behaviour is very instinctive and precise.

Please set the distance between the two carabiners according to the aerology and to the wing manufacturer's recommendations. The average distance / spacing for most gliders from the center of the right Biner to the center of the left Biner where the risers connect, is between 36 cm and 45 cm.



Tightening the chest strap provides more stability but less harness piloting efficiency. Doing so, increases the risk of riser twisting. On the contrary, loosening the strap provides more efficiency but can be dangerous in turbulent aerology while increasing the risk of falling towards the collapsed side of your glider and without being able to efficiently counteract the situation.

Speedbar use



We recommend a careful use of the speedbar because of an increased risk of massive collapse. Please read carefully the manual of your glider.

Landing

Stand up inside the harness and adopt an upright position in order to run to dissipate horizontal speed.



Do not land whilst in the seated position, this is dangerous.



NB : Frequent landings on the Airbag can damage the fabrics and the sewings and may decrease its efficiency.

We propose you optional accessories that combine perfectly to your ALTIRANDO² harness.

Function	Code	Description	Code
Speed bar	ACCELSOUPLE	Soft speed bar	100 g
Short foot-rest	CALEPIED	Short foot rest	150 g
Front parachute pocket	PPVC	Front parachute container	560 g
	PPVCLIGH	Light front parachute container	320 g
	PPVCXTRALITE	X-tralite front parachute container	100 g
	COCPPVC	Front parachute + cockpit	660 g

All the information for the accessories are provided with the product or are easy to access on our website www.supair.com



Wash and care of your harness

It is a good idea to wash your harness from time to time. To do this, we recommend to use a soft solvent (such as soap), use a brush and rinse thoroughly. In any case, do not use chemicals such as detergents or strong solvent because it may deteriorate the webbing, stitching and fabrics of your harness.

The zip fasteners should be lubricated from time to time, using a silicon spray.

If your harness gets wet, it is advisable to treat your automatic buckles and carabiners with silicone grease from time to time.

Storage and transport When you don't use your harness, store it inside your paragliding rucksack, in a dry, cool and clean place, protected from UVs exposure. If your harness is wet, please dry it thoroughly before storing.

For transport, protect the harness from any mechanical or UV deterioration (use a bag). Please avoid long transports in wet conditions.

Lifetime

Independently of the pre-flight check-out, you have to open and unfold your rescue parachute once every 6 months. Once every 2 years, you need to perform a complete check of your harness :

- Carbon seat plate : no crack, no asperity.
- webbings (no excessive wear, no rip beginning, no unwanted folds)
- buckles and carabiners (no structural cracks / works fine).



The threads that compose the webbing and fabrics used in the ALTIRANDO² have been selected in order to ensure the best possible lightness/lifetime compromise. Nonetheless, in some conditions, after a long term exposure to UV and/or significant abrasion or exposure to chemicals, it is compulsory to check your harness in a certified repair centre. It is about your safety.



These carabiners must never be used for anything else else than paragliding (not for climbing, no towing, etc.).

The carabiners must be replaced by new ones every 5 years.

Repair



Though we use the highest quality materials, it is possible that your harness may eventually deteriorate through general use. If it is showing any signs of significant wear and tear, you should check it and repair it in an certified repair centre.

SUPAIR offer a repair facility for their products beyond the end of the warranty period. Please contact us either by telephone or by E-mail sav@supair.com in order to receive a quotation.

Materials

Fabrics

DYNEEMA® RIPSTOP

CORDURA®

Webbings

Polyamide 20 mm (500DaN)

Polyester 25 mm (1250 DaN)

Recycling

All our materials are selected for their technical and environmental characteristics. No components of our harnesses may harm nature. Most of our components are recyclable.

If you judge your harness has finished its life, you can separate all the plastic and metallic parts and apply up-to-date sorting rules in effect in your community. For recycling of the fabric parts, we advise you to contact your local authority that deals with fabric recycling.

Warranty

SUPAIR takes the greatest care in the design and production of its products. SUPAIR guarantees its products 5 years (from purchase date) against any defect or design fault occurring during normal use. Any damage or degradation resulting from incorrect or abusive use, abnormal exposure to aggressive factors, including, but not limited to; high temperature, intense sun exposure, high humidity etc will invalidate this warranty

Disclaimer



Paragliding is an activity that requires, skill, specific knowledge and sound judgement. Be careful, learn in certified schools, subscribe an adequate insurance policy as well as a flying license and make sure your skill match the conditions. SUPAIR cannot be held responsible for your paragliding decisions or activities



This SUPAIR product has been designed exclusively for paragliding. Any other activity such as skydiving or BASE jumping is absolutely forbidden.

Pilot's gear



This is essential that you carry a helmet, suitable boots and clothing. Taking a reserve parachute suitable for your weight and correctly connected to your harness is also very important.

This page will help you to record all the life stages of your ALTIRANDO 2 harness.

Serial number :

Purchase date	
Owner's name	
Name and stamp of the shop	

<input type="checkbox"/> Care <input type="checkbox"/> Resale	
date	
Workshop's name/ Buyer's name	

<input type="checkbox"/> Care <input type="checkbox"/> Resale	
date	
Workshop's name/ Buyer's name	

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date	
Workshop's name/ Buyer's name	

<input type="checkbox"/> Care <input type="checkbox"/> Resale	
date	
Workshop's name/ Buyer's name	



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